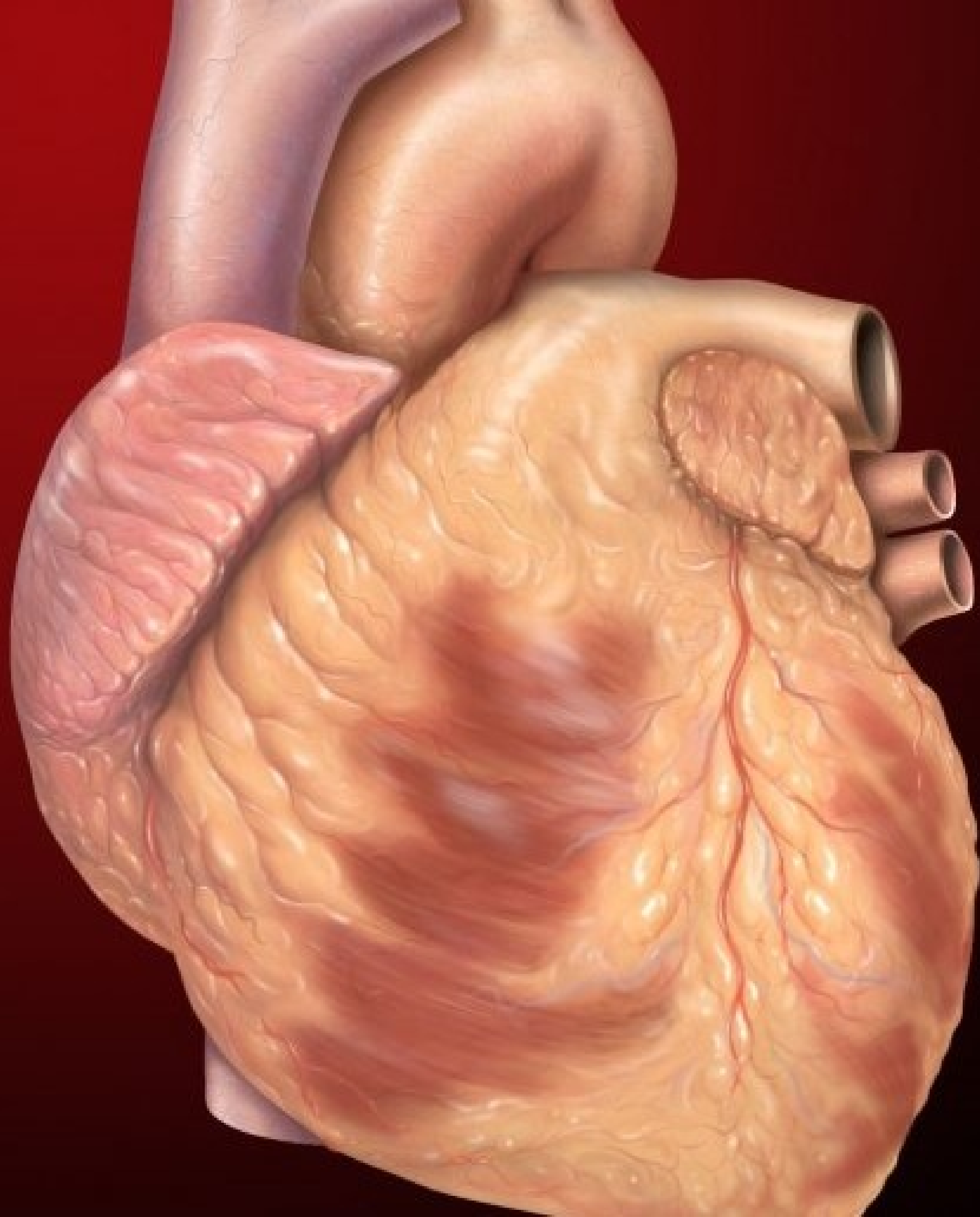
UPDATES TO HEART FAILURE GUIDELINES

IMPLEMENTATION IN RURAL POPULATIONS



Heart Failure in America

- Contemporary HFrEF guideline-directed medical therapy (GDMT) is estimated to reduce the risk of cardiovascular death or HF hospitalization by up to 62% compared with limited conventional therapy.
- 2019
  - Mortality: 86,177
  - Any-mention mortality 377,599 (1:8 mentions)
- 2018 Hospital discharges r/t HF = 1,250,000
- 2015-2018 estimated 6.0 million Americans ≥20yrs of age had HF, an increase from 5.7 million calculated from 2009-2012.

(Tsao et. al., 2022)

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Heart Failure in America

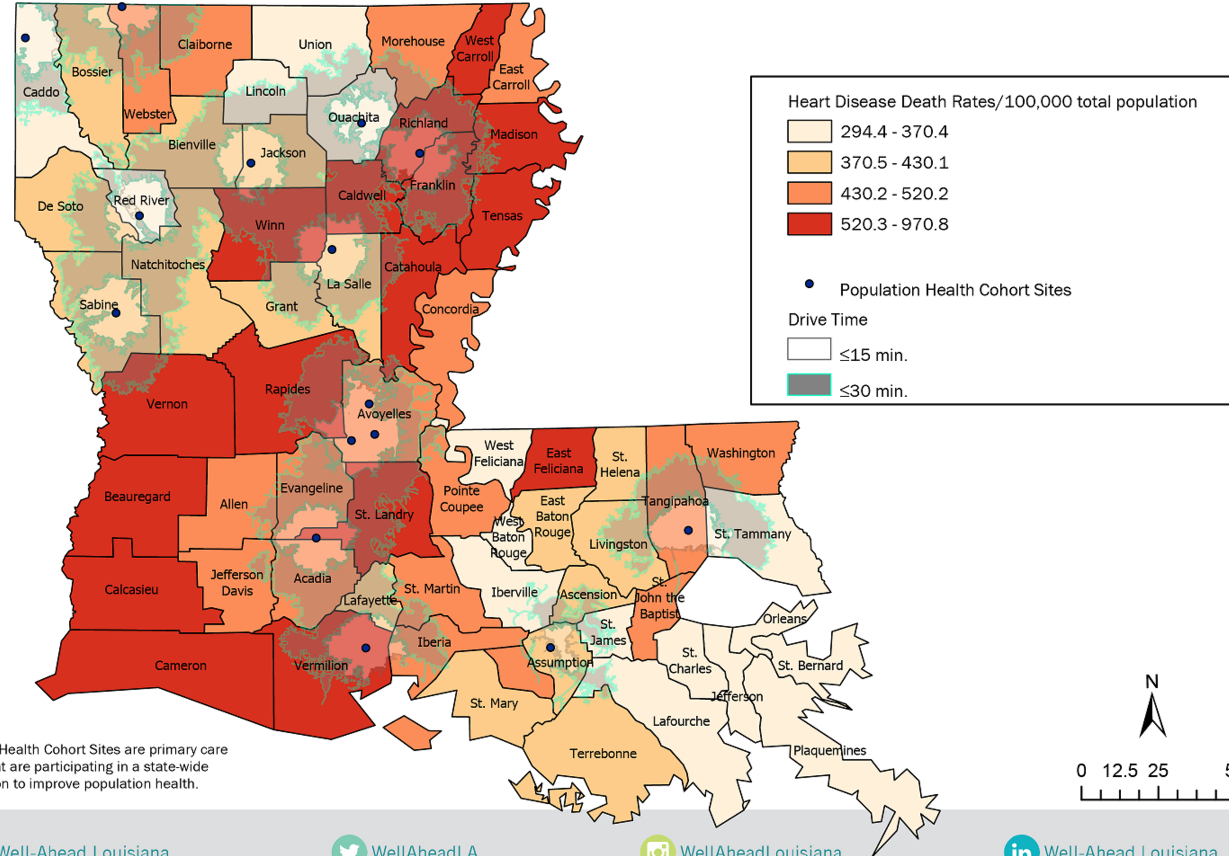
- Prevalence is projected to increase by 46% by 2030, affecting over 8 million Americans (3.0% of the projected population by 2030).
- Residents of rural communities in the West, Midwest, and South have higher mortality risk during HF hospitalizations compared with residents of large metropolitan areas.
- Projections suggest that by 2030 the total cost of HF will increase by 127%, to $69.8 billion.

(Tsao et. al., 2022)

Heart Disease in Louisiana

- Highest Rates:
  - Franklin (970.8)
  - Caldwell (720.2)
  - Madison (686.3)
- Health access and outcomes vary greatly across the state.
- Population Health Cohorts

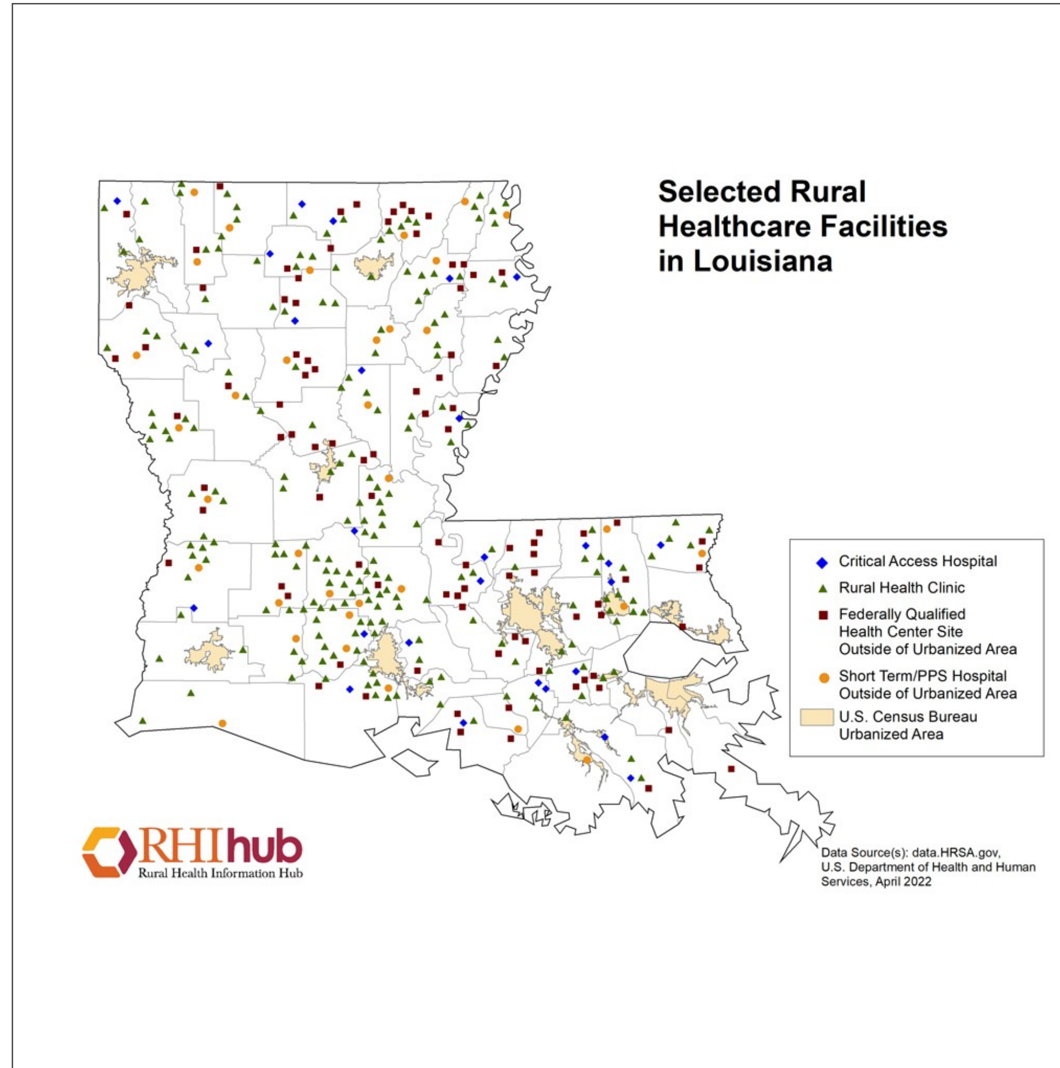
Heart Disease Death Rates by Parish and Geographic Access to Population Health Cohort Sites, Louisiana



Well-Ahead Louisiana | WellAheadLA | WellAheadLouisiana | Well-Ahead Louisiana

Source: CDC Atlas of Heart Disease and Stroke, 2016-2018, Age 35+
LA Heart Disease Project on Population Health Cohort Sites (2019-2020)
Method : Quartile

(CDC, 2021; Louisiana Department of Health, n.d.)



Louisiana's Rural Healthcare Facilities

- Total population of Louisiana estimated at 4,664,616
- Rural/Nonmetro population estimated at 740,672 (15.9%)
- 211 Rural Health Clinics in Louisiana
- 94 Federally Qualified Health Centers (FQHC)

Health Disparities in Rural Care

- Less likely to have health insurance
- Lack of healthcare provider access
- Geographical challenges: distance to the nearest health care center
- Social isolation
- Economic disparity and low-income
- Transportation challenges

(Manemann et. al., 2021)

New HF Nomenclature

HF with reduced EF (HFrEF)

- HF with LVEF ≤ 40%

HF with improved EF (HFimpEF)

- HF with baseline LVEF ≤ 40% with an increase from baseline showing a second measurement > 40%

HF with mildly reduced EF (HFmrEF)

- HF with LVEF 41-49%

HF with preserved EF (HFpEF)

- HF with LVEF ≥ 50%

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Heart Failure Phenotypes: HFrEF vs HFpEF

HFrEF

Increased preload and diminished contractility result in impaired systolic function[1]

≤40%

Large left ventricle
Thin left ventricle wall

Common risk factors/comorbidities

Male
Obesity
Hypertension
Diabetes
Kidney disease
Volume overload
Myocarditis
Myocardial infarction

Female
Age
Obesity
Hypertension
Diabetes
Kidney disease
COPD
Anemia
Inflammation
Liver disease
Sleep apnea
Gout
Cancer

HFpEF

Increased afterload and LV filling abnormalities lead to impaired diastolic function[3]

≥50%

Small left ventricle
Thick left ventricle wall

Learn about HFrEF vs HFpEF | Boehringer Ingelheim (boehringer-ingelheim.com)

Pharmacological Therapy for HFrEF 4 Main Classes of Medication

- *ARNi/ACEi/ARB*
  - ARNi is preferred, ACEi when ARNi is not feasible, ARB when ACEi intolerant or ARNi not feasible.
- *Beta-Blockers*
- *MRAs*
  - Mineralocorticoid Receptor Antagonists (Spironolactone/Eplerenone)
  - GFR >30 and K <5.0
- *SGLT2i*
  - Very little impact on blood pressure
  - Adequate intake of fluids (May need to adjust diuretics)
  - UTIs/Mycotic infections
  - Not for Type I
  - **Don't have to have diabetes.**
  - Dapagliflozine/Empagliflozin trials were the drivers for change in guidelines.
    - Note on Diuretics: Should not be used in isolation but always combined with other GDMT. (Uncertain effects on morbidity and mortality)

(Tsao et al., 2022)

Guideline Directed Medical Therapy: HFrEF

COR	LOE	Recommendations
1	A	In patients with HFrEF and NYHA class II to III symptoms, the use of **ARNi** is recommended to reduce morbidity and mortality
1	A	In patients with previous or current symptoms of chronic HFrEF, the use of **ACEi** is beneficial to reduce morbidity and mortality when the use of ARNi is not feasible
1	B - R	In patients with chronic symptomatic HFrEF NYHA class II or III who tolerate an ACEi or ARB, **replacement by an ARNi** is recommended to further reduce morbidity and mortality
1	A	In patients with HFrEF, with current or previous symptoms, use of 1 of the 3 **beta blockers** proven to reduce mortality is recommended to reduce mortality and hospitalizations
1	A	In patients with HFrEF and NYHA class II to IV symptoms, an **MRA** is recommended to reduce morbidity and mortality, if eGFR >30 mL/min/ 1.73 m2 and serum potassium is <5.0 mEq/L
1	A	In patients with symptomatic chronic HFrEF, **SGLT2i** are recommended to reduce hospitalization for HF and cardiovascular mortality, irrespective of the presence of type 2 diabetes

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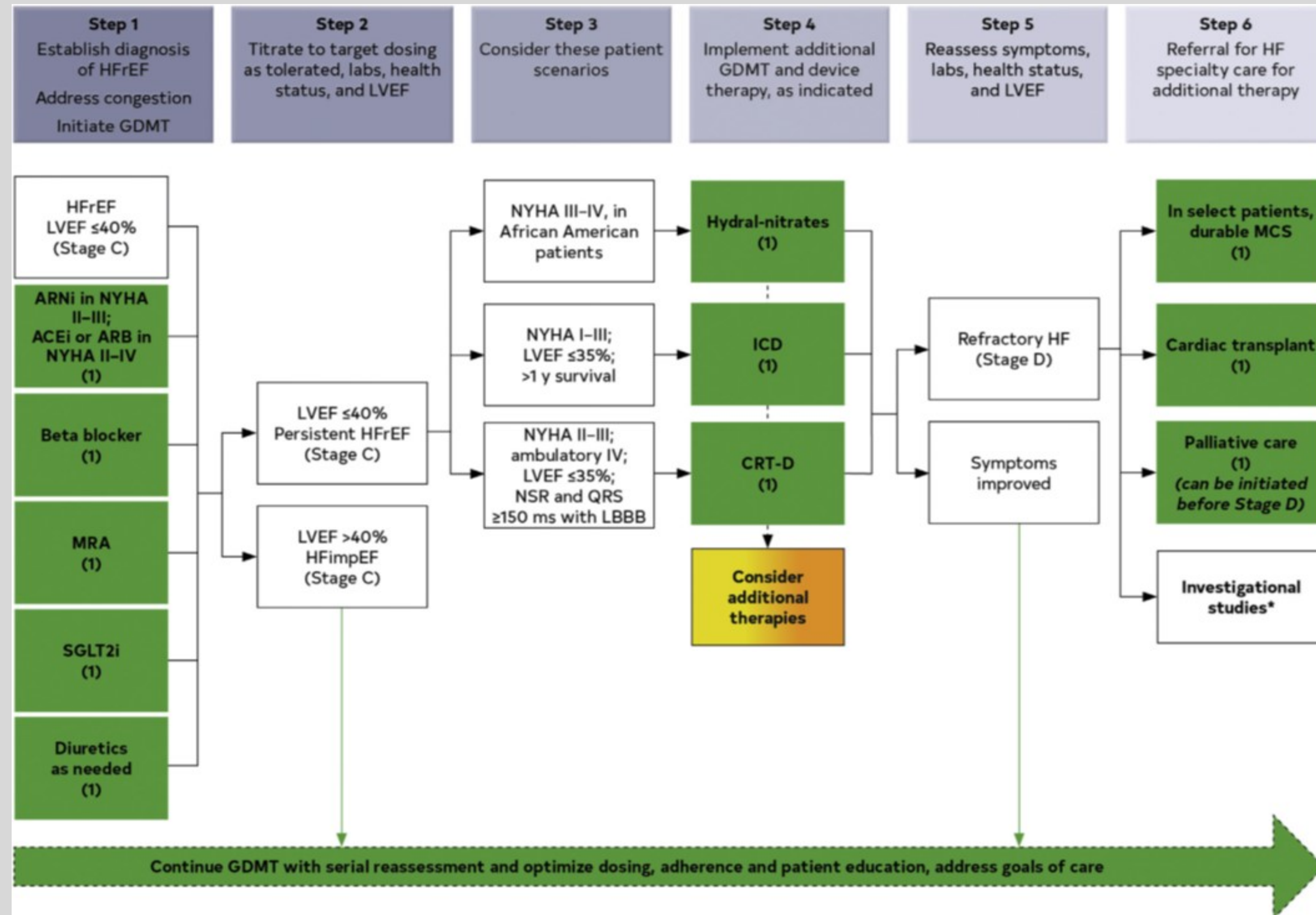
Guideline Directed Medical Therapy: HFrEF



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New Recommendations: HFmrEF
LVEF 41-49%

COR	LOE	Recommendations
2a	B - R	In patients with HFmrEF, **SGLT2i** can be beneficial in decreasing HF hospitalizations and cardiovascular mortality
2b	B - NR	Among patients with current or previous symptomatic HFmrEF, use of evidence-based beta blockers for HFrEF, **ARNi, ACEi, or ARB, and MRAs** may be considered, to reduce the risk of HF hospitalization and cardiovascular mortality, <u>particularly among patients with LVEF on the lower end of this spectrum</u>

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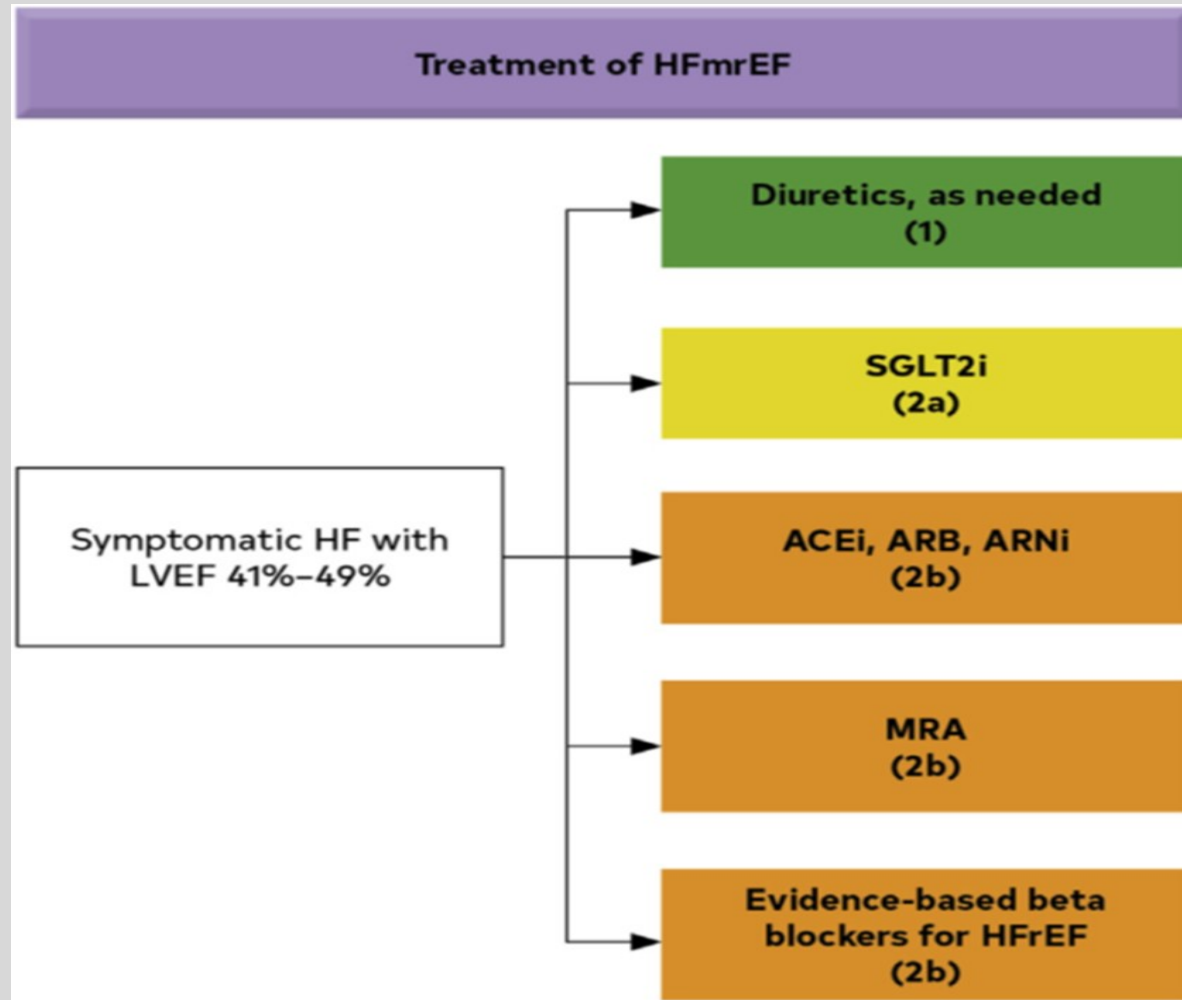
Guideline Directed Medical Therapy: HFmrEF



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New Recommendations: HFpEF LVEF ≥ 50%

COR	LOE	Recommendations
2a	B - R	In patients with HFpEF, **SGLT2i** can be beneficial in decreasing HF hospitalizations and cardiovascular mortality
2b	B - R	In selected patients with HFpEF, **MRAs** may be considered to decrease hospitalizations, particularly among patients with LVEF on the lower end of this spectrum
2b	B - R	In selected patients with HFpEF, **ARNi** may be considered to decrease hospitalizations, particularly among patients with LVEF on the lower end of this spectrum

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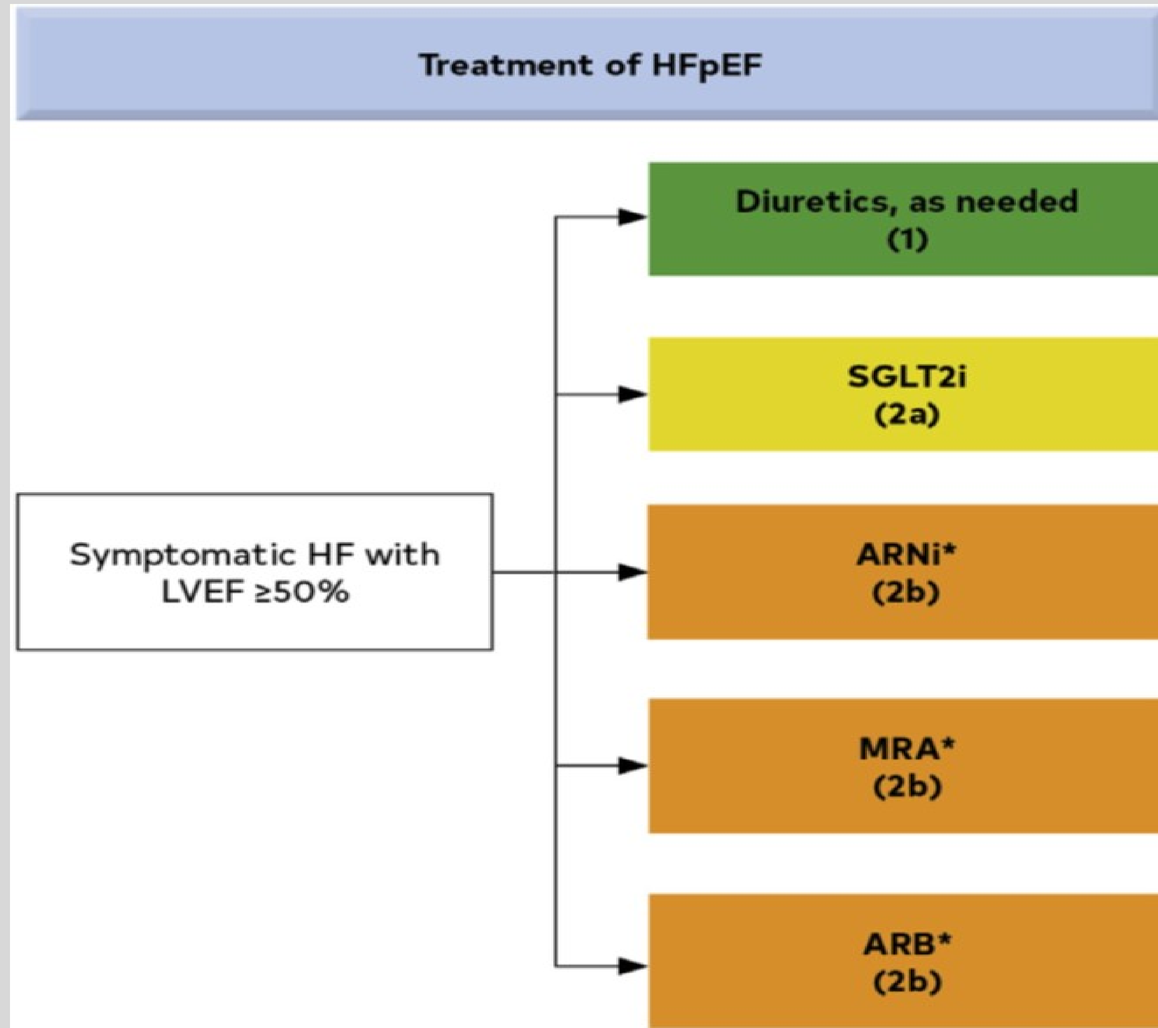
Guideline Directed Medical Therapy: HFpEF



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Recommendations: HFimpEF

COR	LOE	Recommendations
1	B - R	In patients with HFimpEF after treatment, GDMT should be continued to prevent relapse of HF and left ventricular dysfunction, even in patients who may become asymptomatic

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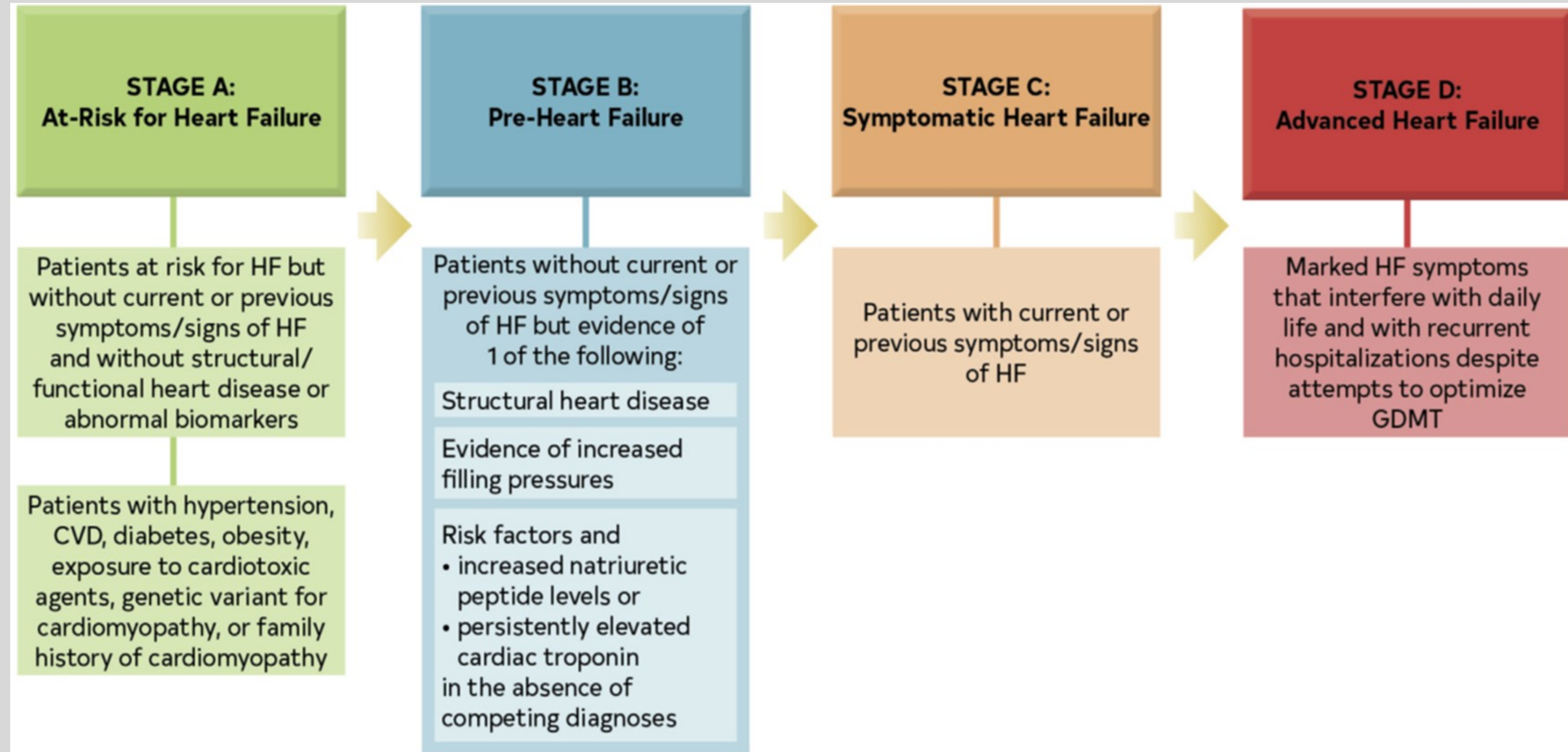
Revised HF Stages: Primary Prevention Focus



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Stage A: Primary Prevention Recommendations

COR	LOE	Recommendations
1	A	In patients with hypertension, **blood pressure** should be controlled in accordance with GDMT for hypertension to prevent symptomatic HF
1	A	In patients with type 2 diabetes and either established cardiovascular disease or at high cardiovascular risk, **SGLT2i** should be used to prevent hospitalizations for HF
1	B - NR	In the general population, **healthy lifestyle habits** such as regular physical activity, maintaining normal weight, healthy dietary patterns, and avoiding smoking are helpful to reduce future risk of HF
2a	B - R	For patients at risk of developing HF, **natriuretic peptide** biomarker–based screening followed by **team-based care**, including a cardiovascular specialist optimizing GDMT, can be useful to prevent the development of LV dysfunction (systolic or diastolic) or new-onset HF
2a	B - NR	In the general population, **validated multivariable risk scores** can be useful to estimate subsequent risk of incident HF

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Stage B: Recommendations for Mgmt

COR	LOE	Recommendations
1	A	In patients with LVEF ≤40%, **ACEi** should be used to prevent symptomatic HF and reduce mortality
1	A	In patients with a recent or remote history of myocardial infarction or acute coronary syndrome, **statins** should be used to prevent symptomatic HF and adverse cardiovascular events
1	B - R	In patients with a recent myocardial infarction and LVEF ≤40% who are intolerant to ACEi, **ARB** should be used to prevent symptomatic HF and reduce mortality
1	B - R	In patients with a recent or remote history of myocardial infarction or acute coronary syndrome and LVEF ≤40%, **evidence-based beta blockers** should be used to reduce mortality
1	B - R	In patients who are at least 40 days post–myocardial infarction with LVEF ≤30% and NYHA class I symptoms while receiving GDMT and have reasonable expectation of meaningful survival for >1 year, an **ICD** is recommended for primary prevention of sudden cardiac death to reduce total mortality
1	C - LD	In patients with LVEF ≤40%, **beta blockers** should be used to prevent symptomatic HF

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New Drug Recommendations from the AHA/ACC/HFSA:

The guidelines for heart failure (HF) with reduced ejection fraction (HFrEF) will now include 4 medication classes, including sodium-glucose cotransporter-2 inhibitors (SGLT2i).

1: ACEi or ARB, 2: beta blockers, 3: MRA, and 4: SGLT2i

New recommendations for HF with preserved ejection fraction (HFpEF) Mineralocorticoid receptor antagonists (MRA), SGLT2i and angiotensin receptor-neprilysin inhibitors (ARNi).

(American Heart Association, 2022; American College of Cardiology Foundation, 2022; Heart Failure Society of America, 2020)

Reducing Disparities in Cardiovascular Health

-Reaching for Health Equity-

People from Racial/Ethnic Minority Groups	Pregnant or Postpartum Women with HTN	People with Lower Incomes	People Who Live in Rural Areas and Other 'Access Deserts'	People with Behavioral Health Issues Who Use Tobacco
Deliver MTM, SMBP, and other HTN management in trusted spaces like barbershops, salons, and churches	Support widespread SMBP use for hypertensive disorders during pregnancy	Expand Medicaid for SMBP devices, medications, and CR	Support availability of robust virtual and remote models of CR	Expand barrier-free Medicaid for tobacco cessation
Support policies that prohibit the sale of flavored tobacco products, including menthol	Expand Medicaid for SMBP devices, medications; 1-year postpartum coverage	Support SMBP device loaner programs	Support SMBP use and related telehealth	Support integration of tobacco cessation treatment into mental health and substance use care

MTM = medication therapy management SMBP = self-measured blood pressure monitoring HTN = hypertension CR = cardiac rehabilitation = Heart Health

(Centers for Disease Control and Prevention, 2022)

Alleviating Access Related Disparities

- Increase provider access
- Utilize technology such as telehealth to increase access options and improve outcomes
- Know your community resources
- Acknowledge the Social Determinants of Health (SDOH) in your community
- Educate pts on daily weight and diuretic use
- Start conversations early

(Manemann et al., 2021)

"
OF ALL THE FORMS OF INEQUALITY, INJUSTICE IN HEALTH IS THE MOST SHOCKING AND INHUMANE.
"

– MARTIN LUTHER KING, JR.

"
DISEASE ONLY TREATS HUMANS EQUALLY WHEN OUR SOCIAL ORDERS TREAT HUMANS EQUALLY.
"

– JOHN GREEN

"
IF ACCESS TO HEALTH CARE IS CONSIDERED A HUMAN RIGHT, WHO IS CONSIDERED HUMAN ENOUGH TO HAVE THAT RIGHT?
"

– PAUL FARMER

"
WHERE YOU LIVE SHOULD NOT DETERMINE WHETHER YOU LIVE, OR WHETHER YOU DIE.
"

– BONO

THANK YOU

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